

CLAIMS

What is claimed is:

- 1 1. A method of communicating over a plurality of different target media,
2 comprising:
3 providing, for each of the plurality of different target busses, a plurality of
4 communication element types, each communication element type being structured to
5 represent a particular protocol layer a of the respective target communication medium.

- 1 2. A method as recited in claim 1,
2 wherein instances of each communication element type can be created for
3 exchanging data on the respective target medium.

- 1 3. A method as recited in claim 1, further comprising defining the plurality of
2 communication element types responsive to exchanges allowed by the protocol of the
3 respective target medium.

- 1 4. A method as recited in claim 1, further comprising:
2 creating an instance of at least one of the plurality of communication element
3 types; and
4 processing the instance of the communication element type for exchanging
5 information on the respective target medium.

- 1 5. A method as recited in claim 1, wherein the communication element type defines
2 a structure for transmitting data over the target medium.

- 1 6. A method as recited in claim 1, wherein the communication element type defines
2 a structure for receiving data over the target medium.

- 1 7. A method as recited in claim 1, wherein at least one communication element type
2 is a message type that includes a portion for holding message data associated with
3 instances of the respective message type.

- 1 8. A method as recited in claim 7, wherein the message data has a fixed length.

- 1 9. A method as recited in claim 7, wherein the message data has a variable length.
- 1 10. A method as recited in claim 1, wherein the communication element type has a
2 fixed portion that is the same for all instances of the communication element type.
- 1 11. A method as recited in claim 1, wherein any communication element type can be
2 defined in terms of other communication element types.
- 1 12. A method as recited in claim 1, wherein the plurality of communication element
2 types includes at least one message type, and each instance of the message type includes
3 a portion for prescribing timing.
- 1 13. A method as recited in claim 12 wherein the timing includes a setting for
2 specifying a pre-message gap.
- 1 14. A method as recited in claim 12, wherein the timing includes a setting for
2 specifying a pre-word gap.
- 1 15. A method as recited in claim 12, wherein the timing includes a setting for
2 specifying a begin message timeout.
- 1 16. A method as recited in claim 12, wherein the timing includes a setting for
2 specifying a trailing gap.
- 1 17. A method of structuring communications over a communication medium having a
2 known protocol, comprising:
 - 3 providing at least one user-definable communication element type for at least one
4 layer of a generalized communication model,
 - 5 each communication element type having a user-definable structure that is
6 adaptable for representing a corresponding layer of the protocol.
- 1 18. A method as recited in claim 17, wherein specific instances of the communication
2 element types can be created for representing transactions over the medium.
- 1 19. A method of creating an interface with a communication medium having a
2 protocol, comprising:

- 3 creating at least one user-definable communication element type for at least one
- 4 layer of a generalized communication model,
- 5 structuring each at least one user-definable communication element type to
- 6 substantially represent the protocol of the medium at the respective layer of the
- 7 generalized communication model; and
- 8 saving the at least one user-definable communication element type in a computer
- 9 readable format that can be accessed for communicating over the medium.